

Colorado Desert Bioregion

The Colorado Desert Bioregion in the southeastern corner of California extends from the Mexican border north to San Bernardino County and the southern edge of the Joshua Tree National Park, east to the Colorado River and Arizona, and west into Riverside and San Diego counties. This agriculturally rich bioregion is semi arid, but heavily irrigated.

Location, Cities, People

With a population of about 110,000, according to 1990 census figures, the Colorado Desert is the second least populous of the ten bioregions; only the Modoc Bioregion has fewer people. The bioregion encompasses all of Imperial County, the southeastern portion of Riverside County, the eastern end of San Bernardino County, and the eastern portion of San Diego County. Its most prominent cities are Palm Springs, Rancho Mirage, El Centro, and the smaller, but landmark communities of Blythe, Coachella, and Calexico. The bioregion is home to the Fort Yuma Indian Reservation in Imperial County and Arizona, the Colorado River Indian Reservation in Riverside County, and the Campo and Manzanita Indian Reservations in San Diego County.

Tourist Attractions, Industries

Some of the bioregion's best attractions are its natural resources. Picacho State Recreation Area on the Arizona border, operated by the California Department of Parks and Recreation, offers boat rides on the Colorado River from which can be seen migratory cormorants, mergansers, white pelicans, and wintering bald eagles, to name a few species. Trails into the rugged backcountry lead to the habitat of desert bighorn sheep, feral burros, golden eagles, and nesting prairie falcons.

The Salton Sea National Wildlife Refuge features open water, salt marshes, freshwater ponds, and desert scrub, which attract nearly 400 bird species, including great roadrunners, Gambel's quail, Albert's towhees, endangered Yuma clapper rails, egrets, plovers, northern pintails, Canada geese, snow geese, rough-

legged hawks, peregrine falcon, terns, yellow-headed blackbirds, hooded orioles, and white-faced ibises. The refuge is operated by the California Department of Fish and Game, California Department of Parks and Recreation, and U.S. Fish and Wildlife Service.

Dos Palmas Preserve, near Indio, owned by the U.S. Bureau of Land Management, offers a lush desert oasis with a restored wetlands that accommodates endangered desert pupfish. The preserve attracts an array of wildlife, such as hooded orioles, warblers, snowy egrets, ospreys, American avocets, and horned lizards. The western fringe of the Imperial National Wildlife Refuge, located mostly in Arizona, is also in this bioregion.

Imperial County is one of California's top-ranking agricultural counties and a producer of cotton. Military installations include the Chocolate Mountains Naval Aerial Gunnery Range and the Naval Desert Test Range.

Climate, Geography

The Colorado Desert is the western extension of the Sonoran Desert that covers southern Arizona and northwestern Mexico. It is a desert of much lower elevation than the Mojave Desert to the north, and much of the land lies below 1,000 feet elevation. Mountain peaks rarely exceed 3,000 feet. Common habitat includes sandy desert, scrub, palm oasis, and desert wash. Summers are hot and dry, and winters are cool and moist.

The Colorado River flows along the entire eastern boundary of the Colorado Desert Bioregion on its way to Yuma, Ariz., where the two states and Mexico come together. The only other river of significant size in this bioregion is the polluted New River, which flows from Mexico into the Salton Sea, the region's largest body of water, on the border of Imperial and Riverside counties. The Salton Sea was created in 1905 when the Colorado River broke through an irrigation project and flooded a saline lake bed, creating an inland sea, which now lies about

235 feet below sea level and is some 35 miles long and 15 miles wide.

Anza Borrego Desert State Park, located mostly in eastern San Diego County, but jutting into Imperial County, is the bioregion's largest recreation area, covering 600,000 acres. It offers more than 225 bird species and dozens of mammals, amphibians, and reptiles. Bighorn sheep can be seen there, as well as thrashers and owls.

Plants, Wildlife

Other species in the Colorado Desert are Yuma antelope ground squirrels, white-winged doves, muskrats, southern mule deer, coyotes, bobcats, and raccoons. Rare animals include desert pupfish, flat-tailed horned lizard, prairie falcon, Andrew's dune scarab beetle, Coachella Valley fringe-toed lizard, Le Conte's thrasher, black-tailed gnatcatcher, and California leaf-nosed bat.

Rare plants include Orcutt's woody aster, Orocopia sage, foxtail cactus, Coachella Valley milk vetch, and crown of thorns. For a complete list of the Colorado Desert Bioregion's federal and state endangered, threatened and rare species, please refer to the chart at the end of this bioregional section.

CURRENT CONSERVATION INITIATIVES

*The **Coachella Valley Preserve** is the result of cooperation between public and private agencies to protect a threatened desert ecosystem. The 17,000 acre preserve is a model for protecting endangered species in the arid desert region.*

The Coachella Valley Preserve was essentially the first successful attempt at creating a habitat conservation plan under authorization of the federal Endangered Species Act. The idea for the preserve grew out of an effort to provide a means for controlling development that was going on in the Coachella Valley in the 1960's and 1970's. The houses and golf courses that were being built in the Coachella Valley were fragmenting the once limitless expanse of dunes and dividing them into increasingly small sand patches that were isolated from the natural processes (wind and sand movement) that allowed them to thrive.

In 1980 local environmentalists successfully petitioned that state and federal governments to protect the fringe-toed lizard that depended upon the diminishing sand dunes thereby setting the stage for a classic conflict between land developers and land protectors. Fortunately, reason and cooperation prevailed as developers, federal, state, and local government representatives and The Nature Conservancy began a series of meetings to create a solution that could work for everyone.

The result was the creation of the 20,000 acre Coachella Valley preserve system that was dedicated in 1986. The preserve is one of southern California's conservation jewels. In addition to protecting the last remaining viable sand dunes in the region, the preserve includes nearly a dozen separate native palm oases. The palm oases range in size from a handful of palms to several hundred palms in a single oases. Some of the oases have open pools of water complete with federal and state endangered desert pupfish. About 180 animal species inhabit the [reserve including a large population of resident and migratory birds. Biologists maintain that the preserve is one of the few locations in the Coachella Valley still capable of sustaining a population of endangered fringe-toed lizards.

This acquisition marked the beginning of a process in which the California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, and The Nature Conservancy purchased the land that is now the Coachella Valley Preserve. The preserve is now jointly owned and managed by the U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Parks and Recreation, Center for Natural Lands Management and The Nature Conservancy. Challenges for the preserve include securing better protection for one of the main sand sources feeding the dune field, and blending the existing preserve system into an expanded, multi species habitat conservation planning and protection effort now underway in the Coachella Valley.

This unique cooperation of public and private agencies to protect a threatened ecosystem is a model for future conservation efforts.

For more information contact: Cameron Barrows, Coachella Valley Preserve Management Office at (760) 343-1234.

*A host of agencies are working together as the **Salton Sea Agency** to devise a plan to save the threatened Salton Sea, an inland sea that is victim of contaminated run-off concentrations. Together, agencies are seeking to provide for the habitat at the sea while improving water quality, enhancing recreation, and promoting economic development in order to preserve and protect this rare natural feature of the desert region.*

The Salton Sea, which was created in 1905 when the Colorado River broke through an irrigation project and flooded a saline lake bed, is California's largest lake and the largest continuous below-sea-level area in North America. Its watershed covers 7,500 square miles and features open water, salt marshes, freshwater ponds, and desert scrub, which attract nearly 400 bird species, including great roadrunners, Gambel's quail, Albert's towhees, endangered Yuma clapper rails, egrets, plovers, northern pintails, Canada geese, snow geese, rough-legged hawks, peregrine falcon, terns, yellow-headed blackbirds, hooded orioles, and white-faced ibises.

Unfortunately, the rivers that flow into the Salton Sea contain agricultural chemicals, pesticides, fertilizer, industrial waste, and selenium, a trace mineral in soil that washes into irrigation runoff. These contaminants cause death for million of fish and birds. Salt is the biggest problem. The lake is already 25 percent saltier than the Pacific Ocean and edging close to the level that imperils all fish. At the current annual rate of increase - 1 part per thousand - conditions will soon become critical. Studies have forecast the sounding of a death knell within 15 years, when the sea would be too salty for almost all life. Sport fishing, an economic mainstay, would die and demise of the popular fishery and duck hunting, swimming, water skiing and boating site, could plunge the Salton Sea into an economic tailspin.

To save the Salton Sea, its wildlife and tourist economy, local, state, and federal agencies have put their heads together under auspices of the Salton Sea Authority. In 1993, the Salton Sea

Authority was formed by Riverside and Imperial counties, the Imperial Irrigation District and Coachella Valley Water District to coordinate improving water quality, enhancing recreation, and promoting economic development.

Recently, a U.S. Congressional Task Force prepared a plan to gather scientific data needed to solve the Salton Sea's complex problems. A host of agencies have been involved including the U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, U.S. Geological Survey, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, California Department of Fish and Game, California Department of Parks and Recreation, Regional Water Quality Control Board, State Office of Historic Preservation, University of California at Davis and Riverside, California Department of Health Services, and Salton Sea Authority.

The Authority, together with the California Department of Water Resources and U.S. Bureau of Reclamation, also produced a study with 54 options for reducing salinity. The 1997 study recommended dropping the sea's elevation from 227 to 230 or 235 feet to relieve water damage to marinas, waterfront property, and wetlands. The two most talked-about ways to achieve these goals are to impound the saltiest water in a diked pond where salts could be removed through evaporation, or the costlier alternative: pump out the water to a receiving body. Dikes and ponds could reduce salinity to acceptable levels in 4 to 30 years, depending on their size. The diking could cost \$185 million to \$600 million, and the pump-out option is costlier still. Clearly, there is more work to be done but the partners are on the right road and hope to be able to come up with a solution that can save the Salton Sea before it is too late.

For more information contact: Salton Sea Authority at (760) 564-4888.

***The Southwest Ecoregion Planning Group** has come together to collect, integrate, and disseminate ecological information about the southwest region in order to help decision-makers establish a coordinated mechanism for biodiversity planning and resource management within the Southwestern region of the state.*

The Southwest Ecoregion Planning Group has been created to facilitate collection, integration, and dissemination of ecological information in the southwest and to disseminate this information to others in order to ultimately establish a coordinated mechanism for biodiversity planning and resource management on public lands within the Southwestern region.

A multi-agency committee will coordinate biodiversity planning and resource management and evaluate conservation needs and opportunities on federal and state managed lands throughout the region. In order to achieve this coordinated and integrated planning for the conservation of biological diversity, the following goals have been outlined for the process:

1. Coordinate conservation planning, species management activities and associated funding efforts between federal and state agencies, and local government and private efforts.
2. Provide full involvement in the state's Natural Community Conservation Planning (NCCP) program, and other local/regional conservation planning efforts such as those ongoing in San Diego and Riverside Counties.
3. Determine the data needs and data acquisition protocol for this program and devise a practical system for data acquisition and sharing that is suitable to and compatible with all the participating agencies. Coordinate these database issues with other regional database programs (e.g. the San Diego Association of Government's Geographic Information Systems Program)
4. Identify the natural communities and species assemblages at risk now and in the future, determine their current degree of protection, and determine the measures necessary to sustain these resources through a full spectrum of management strategies.
5. Assess the relative roles and responsibilities of the various participating agencies, with respect to region-wide conservation strategies.

Identify the relative abundance of natural communities on the respective agencies' lands.

6. Develop region-wide conservation strategies for target natural communities and species. Determine proportional responsibilities for the respective land managing agencies and jurisdictions in conjunction with these region-wide conservation strategies.
7. Provide an information and education outreach program to the local community. Disseminate geographic data and other related information resulting from this coordinated effort to all interested parties.

The Southwestern Ecoregion Committee involves the following organizations: California Division of Forestry, Riverside; California Department of Fish and Game, Region 5; California Department of Parks and Recreation; San Diego Association of Governments (SANDAG); Southern California Association of Governments (SCAG); U.S. Army Corps of Engineers, Los Angeles; U.S. Department of the Navy, Southwest Division; U.S. Bureau of Indian Affairs, Southern California Agency; U.S. Bureau of Land Management, Desert District and Palm Springs Area Office; U.S. Department of Agriculture, Natural Resource Conservation Service; U.S. Geological Survey, Mapping Division; U.S. Department of Agriculture, Forest Service, Cleveland National Forest, San Bernardino National Forest, Angeles National Forest, Los Padres National Forest, and Fire Laboratory; U.S. Marine Corps Base, Camp Pendleton; National Park Service, Santa Monica Mountains National Recreational Area; U.S. Naval Air Station, Miramar; U.S. Fallbrook Naval Weapons Station; U.S. Fish and Wildlife Service, Carlsbad Office and Ventura Office; and University of California Natural Area Reserve System.

For more information contact: U.S. Fish and Wildlife Service, Carlsbad Office at (888) 534-0400.

*The **Santa Ana River's Team Arundo** is an unlikely team of agencies that has joined together to prevent an invasive and harmful plant from taking over the Santa Ana River. The team is focused on eradicating the plant and restoring native vegetation as part of a collaborative effort to assure successful flood protection and fire prevention measures.*

Several years ago, the City of Riverside took on the daunting challenge of eradicating *arundo donax* (or giant reed) from the Santa Ana River. Arundo is a non-native weed that clogs the river, slows water flow, creates fire hazards, and forces out native vegetation. The effort was not easy at first.

Since no single entity had jurisdiction over the area, agencies were pitting one interest against another and were generally hostile to the idea of working together. Eventually, recognizing the complexity of the river management system and the almost 120 entities holding an interest in the river, the city began to coordinate their efforts with as many of the other stakeholders as possible.

Through perseverance and continued recognition of how each entity could gain from a successful eradication/restoration program, the U.S Army Corps of Engineers, the U.S. Fish and Wildlife Service, The Nature Conservancy, the Riverside Land Conservancy, the local resource conservation district, and other key entities, were eventually brought together to form the cooperative entity known as Team Arundo.

With the team in place, the interested entities now have a reason and a place to share technical and financial resources in order to address eradication of the noxious weed. Thanks to the collaborative efforts of the Team almost 150 acres have been brought under management and the Team has created a "Restoration Bank" to help get more of the area under control. The restoration bank is different than a mitigation bank – it involves "taking" public land and removing the non-natives from the site. The local fire departments and sewer departments are among the local agencies that support the Team Arundo approach and participate in the restoration bank program. Both departments see arundo eradication as an important part of meeting the needs of their own organizations to provide flood control and fire

protection in the area.

Word of the success of Team Arundo has spread in the state and provided a model for other areas. To date, four other "teams" are in place throughout the state, in the Los Angeles Basin, the San Francisco Bay Area, the Santa Margarita River, and a loosely organized team in the Central Valley. Each is working to address the eradication of this non-native invasive plant with a collaborative approach that leverages the resources, expertise, and interest of the many entities who have an interest in seeing the plant removed from California's rivers.

For more information contact: Paul Frandsen, General Manager, Riverside County Department of Parks at (909) 955-4310.

*The **Coachella Valley Mountains Conservancy** was established in 1997 as a state agency within the California Resources Agency. The Conservancy's vision is to create a Coachella Valley in which open space protection and economic development are reconciled. To accomplish this objective, the Conservancy's goals and objectives are centered around completing a Multiple Species Habitat Conservation plan (MSHCP) for the Coachella Valley area.*

The plan would define the conservation goals of the area. The mountains surrounding the valley and key open space areas on the valley floor would be protected in an integrated system of natural areas to conserve biodiversity and bioconnectivity in the area, protect the scenic viewshed, and afford residents and tourists recreational and educational opportunities. Other areas of the valley would be available for development to provide homes, infrastructure, and economic opportunities without conflicting with resource protection goals.

The Conservancy's governing board consists of twenty voting members including the mayor or a member of the city council of each of the cities of Cathedral City, Desert Hot Springs, Indian Wells, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage; the Tribal Council of the Agua Caliente Band of Cahuilla Indians; the Board of Supervisors of the County of Riverside; the California Resources Agency; the California Department of Fish and Game; the Wildlife Conservation Board; the California Department of Parks and Recreation; the University of

California Division of Agriculture and Natural Resources; the U.S. Bureau of Land Management; and the U.S. Forest Service.

Particularly, through its support group, the Friends of the Desert Mountains, the Conservancy will also be expanding its efforts to provide educational, interpretive, and resource compatible recreational opportunities for the

public to enhance their appreciation and enjoyment of the mountains. The group helps support the Conservancy's fundamental mission of acquiring and protecting open space land in the mountains surrounding the Coachella Valley

For more information contact: Coachella Valley Mountains Conservancy at (760) 776-5026.